COMMUNICATION.

TO THE EDITORS.

GENTLEMEN: Being anxious to understand the theory propounded by Mr. Cours in the Intelligencer of October 22d, and not having clearly apprehended his exposition, your good offices are solicited to procure elucidation of one or two points. The exposition may be suf-Sciently full, clear, and precise to enable adepts who are familiar with the subject to grasp his idea; still, as it appears to be intended for others also, he may be willing to make such further explanations as will prevent mistake by one who desires to investigate fairly and to appreciate justly the merit of his discovery.

The object of this note is not to discuss the truth of his physical theory and formulas, or the accuracy of his determinations, but to ascertain what is his theory and how he deduces and establishes his formulas. From the acknowledgment already made it will not be surprising if a meaning should be attached to Mr. Coves's language which it was not intended to convey, and, if so, he is assured that it will be altogether unintentional and from misconception, and it will afford me pleasure to be put

The distinction between an empirical formula and one derived by regular philosophic deduction is recognised and appreciated. But a formula that is susceptible of demonstration may be empirically used, and is so used by one who does not understand the reason of the process; and in the case adduced in illustration, unless the reason for introducing the ratio of the circumference to the diameter, and for taking the time of fall through a definite partion of the pendulum rod, is understood, the principle differs but slightly, if at all, from the method of calculatien by the clock-maker, so far as the person using it is concerned.

The time of vibration of a pendulum in a cycloidal arc is equal to the time of a body's fall through half the length of the pendulum multiplied by the ratio of the circumference to the diameter. Admitting the received laws of motion, the proposition may be demonstrated. It is not rigidly true for circular arcs generally, although if this conventional signification is or is not approved and the arc be small the error will be so small as to be inappreciable, and therefore for small arcs may be safely used in practice. In very large circular ares it is supposed that experiment would show that the vibrations will not conform to the rule demonstrated for cycloidal

It is doubted whether the rule for cycloidal arcs, upon the data stated, can be demonstrated rigidly by what are usually considered the principles of elementary geometry. Its demonstration depends upon the truth of certain pro-perties of the cycloid, for establishing which elementary geometry is not sufficient, and Mr. Coves is understood (not, however, from the article in the Intelligencer, but from previous publications) not to attach much importance to the methods by which the properties of the cycloid are demonstrated. A person may attain sufficient evidence (but short of demonstration) to convince him of the truth of the properties of the cycloid by other considerations, and even by mechanical methods. Assuming these properties as part of the data, the proposition may be demonstrated geometrically. It would give great satisfaction to see a rigid demonstration of the properties in question upon what are usually considered the principles of elementary geometry. As acute an intellect perhaps as ever mortal man was gifted with (that of Paschal has been exercised upon this curve without accomplishing it by that method. The absurdity is also recognised of attempting to express a numerical ratio between two heterogeneous quantities, except by first referring even to conventional unit of its own kind respectively, and then forming a ratio between the resulting abstract numbers. This will not be questioned by any one, and therefore the reason is plain for taking the time of fall through (a definite portion of) the pendulum to obtain the relation between the length and time of vibration. It may be observed, however, that, in considering two pendulums, there is no absurdity in comparing the ratio of their lengths with the ratio of their times, and whatever may be the dimensions of the conventional units the result will be the same. So also with regard to solar distance used by Mr. Cours. The measure he gives of the distance of the earth from the sun is the ratio of the radius vector of the earth to the sun's diameter, and it is perfectly indifferent (in principle) whether his measure of length is feet, inches, or miles, the ratio will be the same. One, however, may be preferable to another for convenience of computation, but the results will be the

The formula which expresses Kepler's third law_that planets-notwithstanding its acknowledged utility and near conformity to observed phenomena, is, it is believed, universally considered in the light in which it is viewed by Mr. Cours, as being purely empirical; and it will be see light merit to establish it, or any other that will conform in its results with observation, on the same kind of basis on which the first two laws of Kepler rest.

The subject of the pendulum is introduced in the way of illustration, but the language afterwards used seems to imply that the planets are pendulums in another than a figurative sense. Even an advocate of the theory repudiated by Mr. Cours recognises analogy between the phonomena; that, as their distances and lengths increase, so their periods and times of vibration respectively increase; that in one sense their motions are alike regular, and he might agree to refer them both to the same principle. The article appears to intend more than this, and that it possible to comprehend both motions in the same for-ala, or that formulas for the rotation and resolution of is possible to the planets may be deduced from that for the pendulum.

If Mr. Cours does succeed (and I truly and heartil) desire that he may succeed) in deducing, by legitimate processes and logical consequences, from the demonstrated laws of the pendulum, a formula for the rotation and revolution of the planets which will conform in its results with observation, he will achieve a distinguished triumph, and will find no difficulty in securing the attention of men devoted to science who will gladly profit by so important

The relative times of vibrations of pendulums may be expressed in functions of their lengths; se that, whatever may be the case as to revolutions of planets, it is difficult to conceive how the relative times of rotation can be embraced in or derived from the same formula, whether we regard their radii or their radii vectores as the pendulous length; for, notwithstanding the very great differences, both in distance and size, of all the planets, from Mercury to Mars, their axial rotation is performed in mearly the same time, (near twenty-four hours,) and Jupiter, exceeding them all in size and distance, rotates in less than half their time. Are not the determinations by astronomers of the time to be relied on as correct or mear approximations?

Coces says: "Kepler's formula, (based on the square of the time and the cube of the distance, is only, as we have said, a geometrical expression of an existing ratio, shown to be correct by measurement. The foregoing calculation, based on the ratio between diameter and circumference, (representing distance and orbit,)
can be geometrically demonstrated to be correct, so that the periods thus obtained stand as the truth on stronger evidence than results obtained from instrumental mea-

The logical correctness of the methods, both geometrical and analytical, and the accuracy of the result with which the ratio of the circumference to the diameter is obtained, will be admitted by every one who will take the pains to understand them. The use of the ratio alone can only give validity to a formula where the question is from the diameter given to determine the circumference or the converse. Now, the only difference pointed out in the passage quoted between his and Kepler's formula is the use of this ratio, instead of squares and cubes Mr. Coues knows very well that the relation between the areas of two orbits may be as well determined from the squares of their diameters, and the relations between the limensions of two globes from the cubes of their diameters, and the relations between two circumferences by the comparison of the diameters themselves, as if we in troduced the ratio between the diameter and circumfer ence, and determined the values of the areas, orbits, and solidity. I will not do Mr. Coues the wrong to say that he argues that because this ratio or any function of it is an element of his formula, therefore it is geometrically demonstrated to be correct, though such was taken to be the meaning on first reading the article. Upon a re-examination it was perceived that the geometrical dem stration, or susceptibility of it, is predicated only of the calculation. Still, from the premises that the calculation of the formula is correct, and the ratio in question enters anto it, according to the structure of the sentence, the gan, from collecting taxes from the Ohio Life Insurance conclusion seems to be drawn "so that the periods thus obtained stand as the truth," &c. This seems to me but little better than the other, unless the correctness of the calculation comprehends both the truth of the formula and that the computation is without error. Then of him upon five days' notice to break open the outer and

rect use of the term calculation. tal measurement, notwithstanding its imperfection, I be-bound to pay. The question will probably be fully lieve the truth of Kepler's third law. Mr. Coues's for-argued during the present term of the Court, on the momula may be true, and, what is more, he may have de- | tion to dissolve the injunction.

monstrated it satisfactorily; but, with his leave, I will affirm that the exposition in the Intelligencer does not amount to a demonstration of it. I am compelled to admit that many processes and operations in the modern higher calculus, which are to accomplished analysts clear and satisfactory demonstrations, to me are incomprehen-sible. Possibly a mind of larger capacity and greater familiarity with such investigations may see the connex-ion and dependence of things in this exposition which are unperceived by me. Even should Mr. Coues consider the article in the Intelligencer a demonstration, it is hoped he may be induced to make the steps of his processes clearer to me and the mass of his readers.

It is not necessary to inform him that regarding the planets as pendulums, their radii vectores as the penduous lengths, and their revolutions as their times of vibration, and their comparing their revolutions by the rule, (which he admits to be correct,) that the ratio of the times of vibration equals the ratio of the square roots of the lengths, will give results totally inconsistent with

No attempt has been made to compute what result would be given by computing the time of fall, through half the radius vector, because in accordance with the laws generally received an element must enter into the calculation, which, from minuteness being inappreciable, s disregarded for short spaces hear the earth's surface and the mode of procedure which his theory requires for that case is not known. I have therefore entirely failed in discovering how he deduces his formula from the laws of the pendulum.

After giving by way of example the formula as applied to the moon's orbit, he states that he will compute it with the variation of introducing the ratio of the circumference to the diameter of a circle, but for what purpose or what additional evidence it affords for the validity of the formula is not seen. The ratio is used once as a factor and once as a divisor, and of course (just as in multiplying the numerator and denominator of a fraction by the same number) does not change its value, neither does it facilitate the computation. Neither is the reason perceived for deducting the diameter of the earth from that of the sun, which is deemed so palpable as to need no explana-tion, nor for taking double the diameter of the moon's

In illustration of this circumstance we are reminded that for every point moving in one direction in the diameter of a rotating sphere there is a corresponding point on the opposite side of the diameter moving in a contrary It may be observed that mechanical writer direction speaking of circular motion sometimes give such definitions of direction of motion as would render the expres sion incorrect. It is not worth while to inquire how far acquiesced in, as Mr. Coues's meaning is clear. The consequences he draws from it are not quite so clear. and it is perfectly unintelligible to me how this makes double rotation. If it does, what is single rotation? There is no design to divert Mr. Coues from the imme-

liate objects he has in view, but it would be a satisfaction to know whether the new theory takes cognizance of the experiments of Maskelyne and Zack, and the observations of the French savans in the Andes, on the diver gence from the vertical of plumb lines produced by the proximity of mountains; and also for the experiments of Cavendish and Baily, and possibly of Coulomb with the torsion pendulum.

A disbelief in the existence of the centre of gravity i expressed. It is presumed he must allude to some pecliar physical theory of it. He would hardly repudiate the existence of a centre of gravity as defined by some approved writers on mechanics. In the article itself alluons are made to the case where, while the formula expresses correctly the phenomena, the physical theory associated with it is unsound. Yet I was somewhat surprised at the estimate made of the merits of the new me thod compared with the old Ptolemaic. But the high authority by whom that estimate is made, and my want of familiarity with the matter, forbid that I should venture any observations on the subject.

Were it not certain that Mr. Coues is better acquainted with the Principia than myself I would take the liberty of suggesting (not on account of the tenor of his article in the Intelligencer, but of some remarks in his mechanical philosophy) a re-examination of the eighth defini-But as in objections made to the Principla mean tion. ings are attached to terms which are expressly disavowed Newton, a few lines are quoted from the definition which is upon centripetal force, but the remarks also explain the sense in which terms are used in other definitions as well as the rest of the work:

"For I here design only to give a mathematical notion o those forces, without considering their physical causes and sents.'

"I likewise call attractions and impulses, in the same sense elerative and motive; and use the words impulse or propensity of any sort towards a centre promiseuously and indifferently, one for another, considering these forces not physically but mathematically; wherefore the reader is not to ima gine that by these words I any where take upon me to define the kind or manner of any actions, the causes or physical rea-tions thereof, or that I assessment forces in a true and physical senseto certain centres, (which are only mathematical points,) when at any time I happen to speak of centres as attracting or endued with attractive powers."—Melle's Translations.

And in his general scholium at the end of the third book, to prevent all misconception, he again explains the sense clearly in which such terms are used. In the last twelve lines of the scholium he throws out a hint, and only a hint, "concerning a most subtle spirit which pervades and lies hid in all gross bodies," and thus con-

"But there are things that cannot be explained in a few words, nor are we furnished with that sufficiency of experi-ments which is, required to an accurate determination and demonstration of the laws by which this electric and elastic amirit operates."

Inferences drawn from this hint are assailed as doc trines of the Principia. Now, whether his conjecture on here and there in the midst of the confused mass; but it this point was right or wrong, they do not affect his principles in the work, as he expressly cautions us that he introduces into it no such considerations, and does not take upon himself to define the kind or manner of any action the causes of physical reason thereof. At all exents those who attribute all the motions and changes in long staples. This operation caused a great quantity of natter to some modification of electric or magnetic force. or any similar thing, have little reason to quarrel with his subtle spirit.

An observation has been omitted in its proper place above concerning the principle that "rotation commen-surate with revolution is half of the velocity of revolution." Does this mean the if a planet occupied the heated and took fire at the point of insertion. He then whole orbit of the moon it would require for one rotation tried copper cylinders; but these breke frequently, and on its axis the time in which the moon makes two revolutions in its orbit ?

In conclusion, Messrs. Editors, I would remark that the endeavor to avoid the use of any terms or expressions which would seem to imply the truth of any law or theory repudiated by Mr. Coues has compelled the resort to much clumsy circumlocution, and I therefore crave indulgence for my tediousness.

Very respectfully, your obedient servant, November 3, 1858.

HUNDRED-MILE TROT .- About a twelvemonth since a match against time was made by a gentleman of New York that a horse could be produced within a year that would trot one hundred miles in nine consecutive hours. The terms were \$1,000 on the horse against \$3,000 on time. The maker of the match, Mr. C. Coster, at once named his own horse, a large bay gelding, and immediate-

ly put him in training for the feat. As the time had about expired for the performance, Saturday was selected for its accomplishment; and, although it proved to be wet and disagreeable, yet the norse was started, being driven in a light sulky. At twenty minutes to nine o'clock in the morning the betting was about even. The day was cool and damp, with the minute care and attention required in the preparation occasional showers of rain. After starting the horse of this delicate production. Wooden cylinders, therefore, appear to be preferable in all respects to those of copper appear to be preferable in all respects to those of copper appear to be preferred over all which he accomplished in the unprecedented time of eight hours, fifty-five minutes, and fifty-three seconds! At the end he did not appear greatly distressed; but, now that the feat has been accomplished and the horse surviving,

we hope never to record the like again. A TROTTING MATCH for \$6,000 came off on the Union ourse, Long Island, on Friday afternoon, in the presence of several thousands of spectators. The horses were the trotting horse Hero, driven by Hiram Woodruff, and the pacing horse Prince, driven by Geo. Spicer, the distance eing ten miles. On entering the tenth mile the pacer gave out and the trotter won the race, as he had done on a ten mile match with the same horse once before. trotter made the whole distance in 28 minutes and 84 seconds, the first mile being made in 3 minutes and 10 se-

conds and the last mile in 3.121. THE CROW BAR LAW IN OHIO .- At the suit of Mr. S. E Foote, of Connecticut, Judge McLean, of the United States Circuit Court at Columbus, has granted a writ of injunction restraining W. D. Morgan, Auditor of State, and Francis Link, a commissioner appointed by said Morand Trust Company under "the crow-bar law." This statute derives this peculiar name from the summary process which it authorizes for collecting taxes, the Auditor of State appointing a commissioner, and empowering course his conclusion is good, and, as I have no desire for inner doors, windows, vaults, &c., and seize sufficient legomachy, I am willing to concede that such is the corgold, sliver, bank notes, &c. to pay the tax and five per cent. poundage, and other five per cent. for the use of But this would be only admitting the truth of his formula, which is not just now the question. Having some faith in the doctrine of probabilities and in instrumental that the company in which is not just now the question. Having some faith in the doctrine of probabilities and in instrumental that the company in which is not in the doctrine of probabilities and in instrumental that the company in which is not in the doctrine of probabilities and in instrumental that the company in which is not just now the question.

FROM OUR PARIS CORRESPONDENT.

CULTIVATION OF COTTON IN ALGERIA.

PARIS, OCTOBER 20, 1853. Knowing how important the subject is, and how interesting to many of your subscribers and to intelligent men generally throughout the United States, I cannot doubt that the following report, long as it is, upon the long stople (sea island) cotton of Algeria, its culture, prospects, qualities, and value to manufacturers, will prove as acceptable to your columns as any thing I could send you. The article is from the pen of Mr. EDMUND Cox, the owner of large spinning mills near Lille, in the north of France. It was Mr. Cox who introduced into Algeria the culture of this species of cotton, and who sent to the great exhibition of London the remarkable specimens of simple and twisted threads obtained from cotton produced in Algeria in 1850. This report is addressed by Mr. C. to Marshal Sr. ARNAUD, the Minister of War, and I find it published in the Moniteur of the 15th instant. The

the almost exclusive monopoly of the American planters of Georgia and South Carolina. It appears to be now perfectly demonstrated that this rich and interesting culture is capable of becoming one of the most profitable elements of Algerian production. It results in fact from experiments and comparisons which I have been enabled to make during the last three years upon Algerian long staples produced from good American seeds, planted in suitable localities; that the species, far from degenerating, acquires beneath an African sun strength, energy and ductility, with every appearance of the best Ameri can types; that, in a word, it offers all the conditions required for the spinning of the high numbers, which serve or the manufacture of the laces, tulles, and the beauti ful tissues from the factories of Tarare Saint Quentin Every thing has concurred to confirm the hopes which I conceived upon examining in 1850 the spe-cimens of Georgia sea island cotton grown from seeds which had been furnished by me to the Minister of War at the exposition of 1849. The result of that first experiment in long staple cotton was in fact as favorable as could be desired. The cotton grown in the Government nursery at Algiers, under the care of Mr. Hardy, had preserved the most perfect resemblance with the extra fine American cotton that supplied me with seeds, and I therefore valued it at 9 francs the kilogramme, (68 cents per lb. avoirdupois,) the current price at that date. It would now (4th October, 1853) be worth 11 francs (\$2 05 7-10) the kilogramme. According to the desire of the Minister of War, I had some of this cotton spun in order to fix exactly its value for manufacture. Ordinarily fine Georgia cottons, especially the high numbers, are not manufactured til they have remained a year or more in bags. This gives them a greater suppleness and ductility for spinning. But, notwithstanding its extreme want of age, I obtained from the Algerian long staple, grown in

1850, most beautiful articles, to wit: simple threads from

of the number 400. These articles were exhibited at the

the numbers 200 and 230 up to 360, and twisted threads

Universal Exhibition of London, with the fine collection of Algerian cottons, and contributed, I am happy to beof Algerian cottons, and contributed, I am nappy to be-lieve, to establish satisfactorily the eminent qualities for manufacturing purposes possessed by the raw material which had been employed for their production. Every body remembers the magnificent testimonials of appro-bation which were rendered by the international jury to had a second to the production of the contributed of the cont the Algerian cottons, and especially to the species known as the long staple, (sea island.) I need not, therefore, more particularly refer to them; but I think it highly important to make known the results of the new compara tive examinations and of the new experiments to which I have subjected the Algerian cottons of this description. I shall thus complete, by adding the corroboration of my testimony, the considerations upon this subject which have already been published, emanating from one of my honorable colleagues in the spinning business, M. Feray, of Esonnes. After the early experiments made upon the cottons of the crop of 1850, it became important to compare together several successive crops, and the cottons obtained by different planters in different zones of culture, in order to ascertain satisfactorily whether the Georgia long staple was really gained to Algeria and capable of becoming matter of permanent, practical, and profitable culture. This comparison I have just made by means of samples which have been forwarded to me, in addition to the fine bags of the crop of 1852 previously sent me by M., the Director of the Contral Nursery at Algiers, and marked Nos. 6, 7, 8, 10, and 11. I should remark here that the cottons of these five bags were of very various appearances. According to the information received from the Director of the Central Nursery, three of these bags, weighing altogether 536 kilogrammes, (1,182 pounds,) contained the sea island cotton gathered by the planters of the province of Algiers. At first sight these was dull and its staple defective. I therefore styled the bags marked No. 7 and No. 11 ill-looking and very ill-looking, (laid et fort laid;) and bag No. 6 tolerable, (passable.) I expected to find in haz No. 10, weigh a 122 kilogrammes, (269 pounds,) and reported as being the crop of the central nursey, a much superior article; but was much surprised to find the contents of bag marked No. 10 even inferior in quality to those of the three bags already examined. I had to style this bad. However, upon sub sequent more careful and particular examination of these four bags, I discovered that an unfortunate mixture had been made of the Georgia long staple with other species, of which it was impossible to determine precisely the true

character. Several layers of the genuine article appeared was not the beautiful cotton which 1850 gave. I noticed that it had been very badly ginned, and with iron cylinders. It looked badly, was of a dull shade; its staple was broken, it had lost its strength and nerve. I caused these cottons to be beaten with a rod, as is usually done with American wool to fly, and I was more than ever persuaded that they had been torn and injured in the ginning. The Director of the Central Nursery, in a report which the Minister of War has communicated to me, explains how the ginning was performed. He first used wooden cylinders, but soon abandoned them, because, says he, they became besides they blackened the cotton. He then resorted to iron cylinders, and these worked so satisfactorily that he permanently adopted them for his gins. I have not to consider here the rapidity of the operation of ginning. grant that in a given time the iron cylinders will render a greater amount of ginned cotton; but the important question is. How is it ginned, and how is the quality of the cotton affected by the operation? Now, I contend that the iron cylinders, in contact with the long staple unginned cotton, and pressing as they do the cily seeds, must necessarily soil and tarnish the wool. They also tear, weaken, and otherwise injure the fibre, thus depriving the cotton of its most valuable qualities. I myself made experiments with a gin like that described in the report, having grooved iron cylinders, and my cotton was rendered cut and torn like that of Algiers. I then tried rollers of hard box-wood, of small diameter, and only 20 centimetres (7 9-10 inches) long. These rendered me a handsome cotton and perfectly uninjured; no rupture, no damage of any sort ; the whiteness and natural lustre preserved. I should add that the high price usually paid by manufacturers for the fine qualities of the Georgia long staple cotton does not permit the adoption of a less the minute care and attention required in the preparation or iron. But the mode decidedly to be preferred over all mechanical processes is that of separating the seed from the cotton by the hand. We thus get a charer cotton, more beautiful to the eye, and preserve in original per-fection all its admirable natural qualities. We thus get also a more homogeneous cotton, for this method permits the separation from the mass of the inferior and damaged These cottons of the extra fine qualities, when ginned by hand, are worth from 2 to 3 france per kilogramme more than if ginned by a machine. For a long time ginning by hand was the only method used in America for the superior qualities of Georgia sea island cotton; but production having considerably increased more expe-

every respect as cotton ginned by the hand. The knowledge of this process would be a god-send for the Algerian planters. The fifth bag of long staple Algerian cotton, marked No. 8, and weighing about 258 kilograms, (691 lbs.) pre sented on opening it a better appearance than the four preceding bags. The quality was good; but it also con-tained the mixtures and the defects caused by bad gin-ning, which have been signalized above, though in a less degree. Unfortunately, beside samples similar in quality to the produce of the Central Nursery in 1850, were found samples of a decidedly interior quality, produced evidently from bad seeds. This fifth bag came from the farm of Arbal, in the province of Oran, under the care of M. Hericart de Thury. I valued it at 6 francs the kilogram, (51 cents per lb.;) while the bags marked Nos. 6, 7, 11 from the cultivators of the promote of Algiers, was only valued at 5 francs per kilo. (42) cents per lb.;) and bag No. 10, from the Central Nursery, at 3.50 the kilo. (297-10 per lb.) As I have already had occasion to remark to the Administration, I should have estimated at 8 or 9 francs

ditious processes were sought for, thousands of inven-

tions were tried, and new ones are perpetually present-

ing themselves. I have this year received from Charles-

ton a bag of sea island cotton, of fine quality, ginned by

new process, and which appears to me as perfect in

the director of that establishment had previously forward- the letters A.A., as follows : ed to me. I should have estimated in the same manner the cottons of the province of Algiers if they had resembled the product of 1850; if, in other words, the good qualities and the bad had not been mingled together, and if the ginning had been better performed. Nevertheless, I desire it to be particularly understood that, notwith-standing the mixtures and the defects just mentioned, the fine species of Georgia long staple cotton which I intro-duced into Algeria still exists there in all its original perfection; as I convinced myself of by the existence of certain layers contained in the five bags. The essential natter is to separate it from the ordinary species, and to encourage its culture as much as possible. To complete my account of the experiments made under my direction with the cottons contained in the five bags, I will now state what they produced in spinning. The bag marked 10 could only reach the No. 80 mm., with a waste of 35 per 100 more than ordinary, because of the tearing of the staple. The third obtained not being handsome as a simple thread, we were obliged to twist it and then sell it as a thread, of which the raw material was only worth 2 francs the kilogram. The bags marked 6, 7, 11, from the province of Algiers, yielded in spinning a better Algeria, it would seem, has good cause to congratulate the province of Algiers, yielded in spinning a better thread; and bag marked 8, from the province of Oran, itself on having undertaken the culture of Georgia long staple cottons, the production of which has hitherto been staple cottons, the production of which has hitherto been ladden. Algeria, it would seem, has good cause to congratulate the province of Algiers, yielded in spinning a better thread; and bag marked 8, from the province of Oran, farm of Arbal, was purchased up to Nos. 120 mm. and 140 mm., and yielded a handsome thread. This cotton, if more homogeneous and better ginned, might have been spun up to No. 300 mm. Now, I must confess that I was only moderately pleased with the results which were before my eyes when I compared them with the magnificent spun cottons I had obtained in 1851 from the growth of the previous year in the Central Nursery, which at the great Exhibition in London attracted the attention of connoisseurs, and which I shall place in the permanent exposition of Algerian products which has just been opened at the Ministry of War in Paris. My regrets were min-

gled with fears lest the superior seeds which I had given were lost or mixed with other seeds of less valuable spewere lost or mixed with other seeds of less valuable species. Since then I have become reassured upon examining the superb Georgia long staple cottons grown in 1852, by Mr. Godby, of Blidah, as well from my seeds which he became the Central Nursery, as from American from the Central Nursery, as from American of the cottons of the central nursery in 1852, 6th. That the cottons of the central nursery in 1852, grains was represented by two samples of the crops of 1851 and 1852. That of 1851 resembles closely the Georgia Sea Island cotton grown at the Central Nursery in 1850. but its wool is irregular and knotty, (boutonnease,) caused perhaps by the quality of the soil, and by climateric circumstances occurring during the growth of the plant. The ginning is well done, and the cotton is as clean and white as could be desired. This cotton may be classed among the fine current qualities, and estimated, according to the current prices this year, at 7 fr. 50 c. the kilogram, (63 8-10 cents per ib.) The sample from the same seed, gathered in 1852, (that is to say the third year of its introduction into Algeria,) presents itself with more ed opinion touching the preference which should be given satisfactory appearances. The cotton is still rather irregular, but it is not knotty. This is an important point gained. It denotes that the plant is accommodating itself to the soil. It is, in a word, a handsome Georgia long staple cotton, and may be classed among the first quality fine cottons, or very fine; and I value it, according to the current prices this year, at 9 francs the kilogram, (761 cents per lb.) But what elicited my special admiration was the cotton gathered in 1852 by M. Godby from seeds procured at the London Exhibition. This cotton compares, for beauty, for fineness, and strength of staple, with the extra fine long staple Sea Island cottons of Ame-

rica. This cotton, of the same family with that of which I procured the seed, and which therefore strongly resems the cotton grown at the Central Nursery in 1850, will like that attain in spinning the very highest Nos. employed in the tulle and lace factories, and for the fine and costly tissnes. It is a precious type, the culture of which should be encouraged in an exceptional manner, and which should enlist for its preservation and propagation the solicitude of planters and of the Administ I have estimated this superb sample, remarkable alike for the care and the delicacy with which it has been ginned, at 11 f. 50 kilo. (974 cents per lb.) according to the actual current prices in Havre. I am told that Mr. Godby is planting this year 2 hectares (5 acres) of this cotton, and that his field looks remarkably well. I must strongly recommend this planter to gin his cotton as he did last year, carefully picking out the defective bolls. contain 140, 150, or 160 kilogrammes (309, 331, or 353 Even though this process should require much time, he lbs.) at most. The cotton, if too closely packed, loses its will find it to his account in so doing; for if the prices keep up, as there is every prospect of their doing, he will be largely compensated for his trouble. I earnestly recom-mend also the other planters who have cultivated, I am assured, this year some two or three hundred hectares in Georgia long staple cotton, to carefully gather the bolls as they open, and to pay particular attention to the gin-When the seed is good and the crop well gather-

ed, every thing depends upon the ginning.

I have also been shown a new sample of Sea Island cotton grown in 1852 on the farm of Arbal, the third year of the introduction of the seed into Algeria. This cotton, produced from my fine seed, is distinguished egular staple, unmixed with any secondar type. It is in all respects similar to the sample which the director of the farm had remitted to me. It may be classed among the extra fine long staple cottons, and vaaed at 11 franes the kilo. (934-10 cents per lb.) It is to be regretted that the crop of the farm of Arbal was mixed with the other long staple cottons grown in the province of Oran; for clearly the former separately would have

comminaded more than 6 francs the kilogram. Finally, I examined a sort of bastard long staple December, by Mr. Sohn, at Aboukir, near Mostagarem. This cotton, of inferior quality, short and weak staple, comes doubtless from a bad seed. It somewhat resemmixed cottons of the farm of Arbal. According to current prices it can only be valued at 3 fr. 25 c. per kilo .; francs. It is easily comprehended how a cotton like that, mixed with extra fine cottons, should produce a detestable average; and I attribute to this mixture, added to the bad ginning to which it was subjected, the inferior quali-Africa. Planters cannot be cautioned too urgently against this matter. If a given sort is produced only in small quantity, pack it separately in a small bag; it will be sold

with the same facility as the larger bags. where extra fine long staple cottons. There, as elsewhere, the finest qualities will form the exception which it must be our endeavor to make as large as possible. does seem to be demonstrated that, thanks to its vicinity to the sea, along an immense extent of sea-coast, thanks fore, in Algeria all the varieties of Georgia long staple, responding thus to the multiplied demands of French francs the kile., the lowest actual current price, up to the highest prices. Thus, for instance, in 1853 France will purchase from America 7,500 bags of Georgia seaisland cotton. This is the amount required for French consumption; and it is about one fourth of the last crop of the United States, which it seems amounted to 32,814 bags, of the average weight of about 160 kile., (352 lbs. avoirdupois.) " Of these 7,500 bags consumed in France, 4,000 will belong to the category of half-fine (mi-fine cottons, of which the price runs from 5f., 5f. 25c., to 6f. the kilo.; 2,800 begs will be fine cotton, divided into three series, of which the average price will be 8f. the kilo., (68 cents per lb;) and 700 bags only will be extra-fine, worth 9f. 50c., 10f., 11f., and 12f. the kilo., (70], 85, cents, and \$1.02 per lb.) This total importation will represent an approximative value of about eleven record Japan is certainly considerable under the circum millions of france, (\$2,057,000.) It would be well for stances: but it is rather mainful to admit that even with this annual believe paid by the metropolitan manufac-turing interests to foreign producers. The mother coun-try would be happy to effect the substitution; and Alge-ria would have besides in unimpaired degree all the resources consisting in the cultivation of the other species of short staple cottons. I use ordinarily in a factory six or seven classes of Georgia long staple coston, grouped nearly in this man-

ner:			
	Average current price in 1853.	Average current price in 1862.	
A	632 cents per pound 68 cents per pound 724 cents per pound 802 cents per pound 894 cents per pound 977 cents per pound Nonpartil. No fixed p traordnary work.	37 4-10 cts. per pound 448-10 cts. per pound 51 cents per pound 554 cents per pound 744-10 cts. per pound 785 cents per pound rice—employed for ex-	

I have had to pay as high as 26f. per kilo. (\$2.21 per lb.) for cotton that [had need of for exceptional cases. But these cases are very rare; and I only mention them to show that beyoni group marked Rz. the value attributed to the long staps (sea-island) cotton is quite arbitrary in that it does not repose upon any certain base, and not appreciable by ordinary means.

Besides the above classes, there are others which I do not employ, but which are largely used in a great num-ber of French facories. They correspond in quality with the Georgia log staple cottons, which are imported

per kilogram, the current price in March last, the cotton of the farm of Arbal, if that cotton had been more homogeneous, and if the whole had been like the sample which may be classed among the half-fine, and designated by

	Average price in 1853.	Average price in 1852.
A.A. half-fine current, 3d type 2d type 1st type	4214 cents per lb. 4654 cents per lb. 57 4-10 cts. per lb.	2031 cents nor th.

The considerable demands made this year by Europe an manufacturers for American sea-island cotton have caused a corresponding rise in price; therefore is it that I put in parallel columns for comparison the current prices of 1853, an exceptional year, and those of 1852. about an ordinary year, in order that persons concerned may have exact data with respect to the value of this article. When the current half-fine qualities rise very much in price, as this year for instance, the spinners who use it have recourse to the fine qualities of Egyptian cottons. It would thus appear that if Algeria should produce the current half-fine qualities, of which there is sometimes a scarcity, she might be sure of finding a market for them in France.

If now the various samples of Algerian sea-island cotton, which have formed the subject of my examination and experiments, be compared with the double classification which I have just made, it will be seen-1st. That the beautiful cotton of Mr. Godby, of Bli-

dah, grown from the seed procured in London and gathered in 1852, as also the unmixed sample of the Arbal, and the product of my seed, gathered in 1850 at the nursery of Algiers, corresponds with group Ex. 2d. The cotton grown by Godby in 1852 from my good seed the third year of its introduction into Algeria cor-

responds with the average of groups C. D.

3d. That Mr. Godby's cotton of 1851, from the same seed, the second year of its introduction into Algeria,

corresponds with group A.
4th. The mixed cotton of the Arbal farm corresponds

below A.A.

7th. That the cottons of Aboukir, near Mostaganem, presented by M. Sohn, are the most ordinary and defective of the sca-island cottons.

In order to render my demonstration still plainer, I will send to the permanent exhibition of Algerian products, formed at the Ministry of War, samples of all the groups of American cottons belonging to my classification; to say, from the series A. up to Ex. It will only be necessary to compare them with the various samples of Algerian which I have described to be convinced of the exctitude of my appreciations, and to form an enlightenwhen selecting cottons for culture to one species over another

The lively interest manifested by the Emperor when I had the honor of presenting to him at Lille recently a handsome collection of Algerian long staple cottons, and of threads of the highest numbers, spun from them in my factory, officers stamped or painted on them, were stretched along of the highest numbers, spun from them in my factory, convinces me that Government, before coming to definitive resolutions touching the cotton question in Algeria, will enlighten itself by all possible means in order to avoid taking a false step in a matter which interests in an eminent degree both Algerian colonization and metropolitan manufactures.

Crowds of spectators were collected at different points,

I feel bound before concluding to add a few words relative to the mode of packing used in America for the sea-island cottons, because upon the manner in which a line and shoved off for the shore. When the headmost product is offered in the market depends often the confience accorded to it, accustomed as he is to find a certain the sanction of long use. It is a bad plan, for instance, to pack the Georgia long staple (sea-island) cotton in square bags. The preference is given to round bags of rom one metre ninety to two metres (6 feet 3 inches to 6 feet inches) long, and from sixty-five to seventy centimetres (2 feet 11 inches to 2 feet 31 inches) in diameter when they are full. For this purpose a strong coarse bagging is used 45 or 46 inches wide. You cut off say 13 feet of it, double it, and sew up the sides. It is then filled with cotton, without packing too closely. The bag should contain 140, 150, or 160 kilogrammes (809, 231, or 353 good appearance. The end of the bag is then sewed up, and the planter's name is often marked upon it; after which the bag is ready for market. Planters often put an indicative card in the bags of the very fine species. At Havre there is allowed 6 per cent, and 2 kilogrammes over for the tare; so that on a bag of the gross weight of 152 kilogrammes, deduction being made of 9 kilo. tare, and of the 2 kilo. more, there remains 141 kilo. nett.

I am your excellency's, &c. LA LOUVIERE-LES-LYLLE, OCT. 4, 1853.

THE JAPAN EXPEDITION.

The paper from which the subjoined editorial article s copied is a Democratic one, and the views presented do credit to the intelligence, good sense, and candor of the editor.

FROM THE PITTSBURGH "UNION." The recent successful undertaking of Com. PERRY, un der the direction of the Government of the United States. gathered in 1852, the third gathering of the month of to obtain a hearing in the hitherto impenetrable councils of Japan, gives us additional reason to be proud of the energy and perseverance which so strongly mark our national character. And yet we cannot say that the fact authorizes any extraordinary ebullition of vanity. While bles the very ordinary long staple cotton which I found authorizes any extraordinary ebullition of vanity. While in the bags of the province of Algiers, and also with the it is considered an achievement to have obtained an introduction, we are forcibly reminded by that very circum stance that to an immense empire, commanding powerful and in ordinary times it would not bring more that 2 armies and a formidable fleet, we have been hitherto almost unknown. Millions of people in that far-off Eastern island have lived and died in the last half century, and have neither known nor cared whether the United States had a government or not. Our wars have been nothing ty of the five bags that have been sent me this year from to them. They have had greater wars at home. Our steamboats have puffed in our mighty rivers; our vessels such mistakes. They have a deep interest at stake in have been on every ocean; railroads have stretched over our continent; but it has been all of little consideration to the magnificent self-important empire of Japan. There it has been in undisturbed selfish grandeur, considering Doubtless, Algeria will not be found to produce every itself the greatest Power on earth, while a young nation at a mighty distance over the waters, was indulging in the same grateful reflection in relation to itself. is a strange blending of humiliation in the glory of an enterprise which has for its object only the recognition of our national existence by a people who are too prouto the sea, along an immense extent of sea coast, thanks to its marshy soils impregnated with salt, Algeria is adapted to the culture upon a large scale of the Georgia, structed in that important lesson. It is not enough to long staple, (sea island,) as also of the other species, which all thrive there very well. We will cultivate, therepronounce your name when some kind mutual friend favors you with an introduction. Think what you may of manufactures, which have use for all qualities from five his neglected education, when he reveals his deplorable want of intelligence in not having read your last speech, there will be still some lurking degree of mortification in finding that you are only one among many, and of more consequence to yourself than to all of the vast majority beside. Alexander, it is said, did not weep for another world to conquer until his wearied army refused to march any further into this one. A little ignorance is a great support to vanity; and it was very fortunate that in this instance a limited knowledge of the population and resources of the East prevented any mortification to the cononeror's self-esteem.

We think there are some lessons of wiedom and modesty to be learned from an event which many will regard only as a national triumph. That we have succeeded in securing an interview with his royal highness the Empestances; but it is rather painful to admit that, even with Algeria to assert some day her claim to good portion of all our progress in engines and telegrapias, we had to this annual mibute paid by the metropolitan manufacturation which is annual mibute paid by the metropolitan manufacturation. like a recognition of the authority of America to dictate terms to the world. It will hardly sustain the Kossuth dootrine, that the time has come for our interference in regulating the affairs of nations. It does not quite susain the omnipotence of the stars and stripes, as proclaimed in fourth of July speeches and sophomore declamations. And yet we would not be understood to undervalue the importance of the effort, or to detract from its true greatness. But let us not, like Alexander, consider that as the alose which is but the beginning of our destiny. We have here opened up that other world, to conquer which he only pined. There it is powerful and wealthy, but ignorant and prejudiced, as it has been for ages; waiting not for the entrance of armies, but for the refinement of civilization—the knowledge of the sciences and the lighe of Christian truth. We would not underrate the magnitude of an event which has perhaps given us the keys of the East; but we would remember

> FATAL OCCUPANCE, -At New York, on Monday morn ing, the walls of a warehouse in Vandewater street, which was burnt some days since, fell to the ground, causing a melancholy loss of life. One man and woman were killed instantly, and two other women so badly injured that they will hardly recover.

PROVESSIONAL STRIKES .- The Norfolk Herald states that the M.D.'s of that city have struck for higher fees-300 per cent, rise in the case of visits. The Clergy of the rural districts are the only class of professional gen-tlemen who ought to strike. Many of them have large families and small salaries, and those salaries are doled American I have estmated the kilogramme as equivalent to 2 1-5 lbs, avoirdupol and the frame at 13 cents 7 mills.

THE JAPAN EXPEDITION.

FROM THE GERMANTOWN (PA.) TELEGRAPH. The following letter from an officer of high rank in the Japan Expedition, received by the editor of this paper, will be read with deep attention. In several respects it is the most interesting account that has yet appeared, not excepting that of Mr. B. TAYLOR, though not so literal or diffuse. Our thanks are particularly due to our esteemed friend on board the Susquehanna for the fulfilment of a promise made a few days before the expedition sailed from the United States.

U. S. SHIP SUSQUEHANNA, AT SEA,

August 4TH, 1853.

DEAR MAJOR: You had not the terrors of high postage DEAR MAJOR: You had not the terrors of high postage before your eyes when you asked me to write to you from this side of the world. I have spared you a long while, but now you must pay the penalty of your indiscretion. Since I left Norfolk, eight months ago, I have visited Madeira, St. Helena, the Cape of Good Hope, Mauritius, Ceylon, Singapore, Macao, Hong Kong, Canton, Shanghai, the Loo Choo Islands, the Bonin Islands, and, finally, January and that was paged. PAN; at all of which places I saw much that was novel and interesting to me, but not worth relating in a letter, especially as there is an order from the Navy Department against communicating the movements of the squadron to editors and others. However, I do not think it will infringe either the letter or the spirit of the order to send you an account of the delivery of the President's letter in Japan, the first step of Commodore Perry's mission The Susquehanna, Mississippi, Plymouth, and Saratoga arrived in the bay of Yedo, Japan, on the 8th of July,

and anchored off the city of Uraga, which is about twen-ty-five miles from Yedo, the capital. The hills near the water were every where covered with fortifications. They had evidently been preparing for us. The flag-ship was immediately visited by an officer from shore to know why we came here; to say it was against their laws for foreign ships to auchor at this place; that we must go away, and if we had any communications to make they must be sent from Nangasaki, through the Dutch. To this it was replied that the Commodore would not go to Nangasaki; that he would have nothing to do with the Dutch; that he had brought a letter from the PRESIDENT of the United States to the EMPEROR of Japan, which must be received here; and that an officer of the highest rank in the Empire must be appointed for that purpose and to deliver it to the Emperor.

After negotiating and disputing a few days, we carried every point; and, the preparatory arrangements being made, on the morning of the 14th July the Susquehanna and Mississippi got under way, ran down, and anchored that is off the village of Gori-hanns, about two miles from Ura-y be ne-ga, which was the place appointed for the landing; for it s of Al-had been stipulated that the letters should be delivered on shore. The ships sprang their broadsides to bear upon the spot. The boats of the squadron, manned and armed, with colors flying, carrying double crews, all the marines, and as many officers as could be spared from the vessels, now assembled around the flag-ship. On shore we could perceive thousands of troops in long files extending across the mouth of the valley from hill to hill. Lines of cotton behind the front ranks, so as to conceal their preparations in the rear. Flags and banners of gaudy colors, but chiefly red, were displayed every where. On one side of

drawn by curiosity to witness this novel spectacle.

The boats, under Captain Buchanan, now formed into ones had nearly reached the beach, about a mile distant. the Commodore left the ship under a salute of thirteen article put up in a certain manner, which has received guns. By the time his barge reached the beach the offithe sanction of long use. It is a bad plan, for instance, cers, seamen, and marines had landed and were drawn up to receive the Commodore. Their appearance was very imposing, the officers in handsome undress uniform, the seamen in white shirts, blue trowsers, and blue caps, with bands of red, white, and blue, ornamented with stars, and the marines in their becoming uniform. There were about 430 in all, of which fifty remained by the boats to guard them. The barge reached the little jetty which had been built for convenience in landing; the Commodore, accompanied by Commander ADAMS, Captain of the fleet, and Mr. CONTEE, Flag Lieutenant, all in full dress, stepped on shore, the drums rolled, the marines and sailors presented arms, the band struck up, and the hills of Ni-phon echoed with the sound of Hail, Columbia!

The procession then formed and marched a short way up from the beach to where the Japanese troops were araded. In front of them was an enclosure, in which two new open buildings had been erected for the occasion. The Commodore and his suite passed through the first one. and there found a number of Japanese officers in rich dresses squatted on the floor, which was covered with matting and a sort of red felt. They rose respectfully as the train entered, and remained standing until it had passed into the second building, which was joined to the end of which was placed a large and handsome Japanned box or chest. On the left hand side as you entered were seated two old men of very high rank, dressed in flowered brocade silks and embroidery. The highest in rank was Toda-Idzu-no Kami, or Toda, Prince of Idzu. This was the officer accredited by the Emperor to receive from the Commodore's hands the letter of the President. His associate was Ido Iwami-no Kami, or Ido, Prince of Iwami. They spoke not a word, but rose at the entrance of the Commodore. On the side of the platform opposite to them were four chairs, for the Commodore and three of-ficers of his suite. After they were seated—the rest standing-the President's letters were brought in. were contained in two black walnut boxes with gold clasps, and to each one was attached the great seal of the United States, in a gold box, and ornamented with cords and tassels of blue and gold. These were laid upon the Japanese chest and declared to be delivered. Receipts for them in Japanese and Dutch were then handed to the Commodore, and the business was announced to be over. In all this time the Princes never uttered a word nor moved a muscle. They sat like bronze statues. Yezaimon, the Governor of Urags, and an interpreter, who were present and assisting, kept on their knees all the while, and apparently did not once to look the great men in the face, they always bowing their heads to the floo

when they were turned towards them. When the Commodore rose to depart, Toda Idzu and Ido Iwami rose also. The cortege then returned to the boats in the same order it had left them, with colors flying and martial music sounding. Every thing on shore was quiet and orderly. The Japanese soldiers kept their ranks, the spectators their places. I heard not a word spoken, but I saw soldiers with muskets, some with match-locks, and some with spears and shields. I saw two small field pieces. I saw horses well caparisoned, and there was cavalry behind the canvass screen. The time was s short and the objects so diversified that the eye coul hardly dwell upon the half of them long enough to make

an impression on the memory.

We had felt some doubt of their intentions when w saw the large force collected on shore; but every this was conducted in good faith and with good order our preparations, the state of our discipline, and the su periority of our arms, any attempt at treachery on their eart would have been very unsafe, notwithstanding the isparity of numbers.

Contrast this with the treatment Count RESANOTE, th Russian Ambassador, received from the Japanese whe he went to Nangasaki with letters from the Empero ALEXANDER and presents worth a quarter of a million dollars. After keeping him waiting for six months, du ing which time he was subjected to all sorts of indign ties and submitted to all sorts of humiliations, he was last granted an interview with some one of their great me on which occasion he was not allowed to wear his shoe nor his sword, nor stand up, but was compelled to sit the floor with his legs doubled under him, in a manner n only inconvenient to a Russian, but extremely ridiculou and after bearing all this he was told that neither his le ter, his presents, nor himself would be received, and the must leave Japan as soon as possible and never return. The letter of the President is to be left to work in souncils of Japan, like leaven in a loaf, until next spri

when the answer will be called for, and which it is es to predict will be amiable and complying or otherw in exact proportion to the force theb comes for it. MACAO, August 20, 1853 .- After leaving Japan stopping a few days at Loo Choo and at Hong Kong, came to this place for rest and to avoid the danger cruising during the season of typhoons, which lasts up October. I am living on shose, and the ship is at a s anchorage in Cumsing Moan Roads. The weather dreadfully hot, and it is said here that the revolution China—or rebellion, whichever it is—languishes on count of the heat, but that operations will be resun when the summer is fairly over. At present every the

is stagment and business perfectly paralyzed. So say merchants. THE DISPUTED CROSSING of the Northern Indiana Chicago Railroad and the Illinois Central Railroad been at length determined by a decree of the Commisioners appointed by the Circuit Court of Cook cour inois. They direct that the Illinois Central Railr shall cross the other by means of a bridge eighteen in the clear above the surface of the rails of the Not ern Indiana Railroad, thirty feet wide in the clear, to efficiently commenced within thirty days from the day the decree, November 5th, and to be prosecuted with

OPORTING POWDER, &c. Just opened an as ment of diamond grain and other superior qualiti-sporting Powder, and all other goods in the sporting line sale by JNO. W. BADEN, Penn. avenue, near 6th stre-

due diligence to a final completion.